June 28, 1932. G. MAAG-ECKENFELDER 1,864,989

CONTACT PIN FOR ELECTRIC PLUGS

Filed May 22, 1928

Fig. 1.

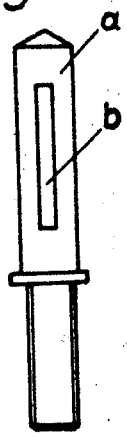


Fig. 2.

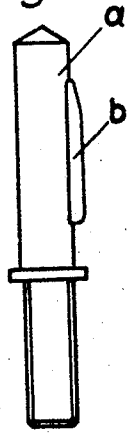


Fig. 3.

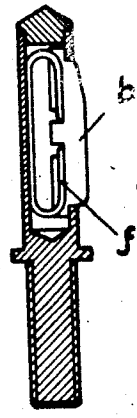


Fig. 4.

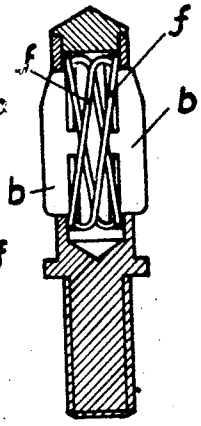


Fig. 5.

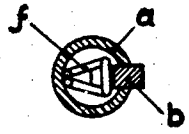
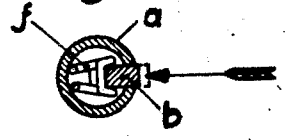


Fig. 6.



Inventor
Gottfried Maag-Eckenfelder
By D. Singer, Atty.

Patented June 28, 1932 1,864,989

UNITED STATES PATENT OFFICE

GOTTFRIED MAAG-ECKENFELDER, OF ZURICH, SWITZERLAND

CONTACT PIN FOR ELECTRIC PLUGS

Application filed May 22, 1928, Serial No. 279,722, and in Germany June 27, 1927.

This invention relates to contact pins for electric plug and socket connections such as employed in telephonic, heavy current and radio circuits.

Rigid contact pins are known having a wire spring forming a contact member and projecting from a longitudinal slot in the pin.

A disadvantage of such known contact pins is that the contact surface between the wire spring and the socket is usually very small the result being that if the pressure applied to the contact surface is allowed to exceed a certain amount, in grams per square millimeter, the contact surface wears away rapidly due to friction when the pin is inserted into and withdrawn from the socket. Moreover a small contact surface cannot transmit a heavy amperage without fear of burning away.

The present invention eliminates the above disadvantages and consists essentially in mounting one or more contact members each in a slot in the plug pin, said member or members being pressed outwardly by spring pressure into contact with the plug socket.

The contact member is so constructed that it has a large contact surface with the socket so that a good contact is obtained and there is less wear.

In the accompanying drawing are illustrated examples of construction in accordance with the present invention.

Fig. 1 shows a front elevation of a contact pin with a contact member,

Fig. 2 shows a side elevation of the same pin,

Fig. 3 is a longitudinal section of the same pin,

Fig. 4 is a longitudinal section of a plug pin with two contact members,

Fig. 5 is a cross sectional view of the form of the invention shown in Fig. 3 and with the contact member in radially projected normal position,

Fig. 6 is a similar view of the same showing the contact member pressed inwardly.

a is the body of the pin, *b* the contact member, *f* the steel springs which are of C-shape.

When the pin is fitted into a suitable socket the contact member is pressed into the pin body *a* diametrically to the axis of the plug pin. The springs *f* engage with their ends against two points of the contact body *b* and cause the contact member to bear with a continual pressure against the wall of the socket. The contact surface on the contact body is selected of such a size that according to the total pressure of the springs *f* the loading in grams per square millimeter remains within permissible limits. The contact surface also has a curvature of a radius corresponding with the radius of the bore of the socket.

In order to obtain effective contact between the contact member and the pin body *a* the contact body is made conical on its inner side. In order to force the contact member *b* against the socket, the conical surfaces slide between the limbs of the spring *f* and form a so-called knife contact. The contact surfaces therefore automatically polish themselves clean.

In the case, for example, of two contact members, the operations are the same as in the case of plug pins with one contact member.

The engagement of the springs *f* with the contact members *b* is effected substantially at the middle thereof, in such a manner that the contact member always bears along its whole length against the socket even in the case of conical sockets, the contact member being capable of turning slightly on the spring *f* so that it can always bear effectively against the contact surface of the sleeve even when this is not truly cylindrical.

What I wish to secure by U. S. Letters Patent, is:—

1. An improved contact pin for electric plugs, comprising a body portion having a longitudinal slot at a point intermediate its

ends, a contact member in said slot for movement radially of the body portion and also for longitudinal tilting movement and a C-shaped spring in said body portion the ends of which form a resilient support for said contact member.

2. An improved contact pin as claimed in claim 1, in which the contact member is provided with means for spreading the spring limbs when said contact member is pressed inwardly and thereby insure good contact.

3. An improved contact pin as claimed in claim 1, in which the contact member has a conical surface on its inner side to slide between the limbs of the spring and form a nice contact therewith when said spring is pressed inwardly.

In testimony whereof I affix my signature.

GOTTFRIED MAAG-ECKENFELDER.